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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,613	04/16/2004	Seth A. Miller	TI-36350 (032350.B601)	1325
23494 7590 11/14/2007 TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			EXAMINER CAMERON, ERMA C	
			ART UNIT 1792	PAPER NUMBER
			NOTIFICATION DATE 11/14/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com
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Office Action Summary	Application No.	Applicant(s)	
	10/826,613	MILLER, SETH A.	
	Examiner	Art Unit	
	/Erma Cameron/	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5, 6, 8, 9, 11, 12, 22 and 27-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5, 6, 8, 9, 11, 12, 22, 27-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. The rejection of Claims 1-2, 5-6, 8-9, 11-14, 17-18 and 20-26 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement, is withdrawn because of the amendment filed 10/30/2007.

However, the examiner notes that the replacement sheet of drawings still does not have the oxygen atoms attached to the surface in the first box of Figures 1 and 2. The examiner suggests that this be corrected.

3. Claims 5-6, 8-9, 11-12, 22 and 27-35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. TEOS (9:9) or Zr tert-butoxide (10:1) do not belong to any of the species listed in claim 8 or at 8:2-6.

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These compounds are alkoxides. Therefore, it is unclear what compounds the applicant means to be used in the claimed invention.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. The rejection of Claims 1-3, 5-6, 8-15, 17-18 and 20-26 under 35 U.S.C. 112, second paragraph, is withdrawn because of the amendment filed 1/17/2007.

6. Claim 5-6, 8-9, 11-12, 22 and 27-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claim 27, last line: it is not clear if the nucleophilic molecule bonds with the first constituent (such as Si) or the reactive group. It appears that the nucleophilic molecule reacts with the reactive group, not the Si.

b) Claim 31: "large" has not been defined and is therefore vague and indefinite.

c) Claim 32: "long" has not been defined and is therefore vague and indefinite.

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d) Claim 34: there is no antecedent basis for "the vapor phase".

e) Claim 8: TEOS does not belong to any of these species. TEOS is an alkoxide.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 5-6, 8-9, 11-12, 22, 27, 31, 32 and 35 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ogawa et al (US2001/0031364).

'364 teaches applying TEOS [0082] or other alkoxysilanes to substrates such as glass, metal, ceramic and the other materials of [0084], followed by a fluoroalkyl trimethoxysilane as in [0145]. "...the fluoroalkyl trimethoxy silane compound underwent a dealcoholization reaction with the adsorbing water and the OH groups present at the surface of the silica-based coating film, forming covalent bonds through siloxane bonds." [0146]. The trimethoxy groups can be seen in the Figures to hydrolyze to an alcohol, and react with the TEOS on the substrate to form a water repellent fluorine-containing coating [0136] [0153]. The fluorine containing film 13 of Figure 5 is reacted with the siloxane film 12 formed from the TEOS [0147] [0148]. The methanol in the solution is removed by heating to 120-150 degrees C [0146], thus meeting the

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limitations of claim 22. If the applicant considers their coating, formed in a two-step process, to be a monolayer, then the coating of '364 may also be considered a monolayer, as it is formed in the same two step process.

Response to Arguments

Regarding applicant's argument that a second film is formed over a first film, the examiner disagrees. The Figures and statements in [0146] clearly indicate that the silane compound has reacted with the coating formed from the TEOS to form a new film. ("...the fluoroalkyl trimethoxy silane compound underwent a dealcoholization reaction with the absorbing water and the OH groups present at the surface of the silica-based coating film, forming covalent bonds through the siloxane bonds..." [0146]. There are not two independent films, but rather one film formed from covalent bonds as shown in Figure 5. The applicant has further argued that the reaction of the fluoroalkyl trimethoxy silane does not displace a first reactive group. The examiner disagrees. The alkoxide group of the TEOS is displaced by the reaction of the silane.

9. The rejection of Claims 5-6, 8-9, 11-12, 22, 27 and 35 under 35 U.S.C. 102(b) as being clearly anticipated by EP 1153740 is withdrawn.

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Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa et al (US20010031364).

'364 is applied here for the reasons given above.

'364 does not teach that the applying step is performed at 180-220 C.

'364 teaches that as part of the first applying step, the solvent is evaporated at 150 degrees C (see Examples 1 and 2).

It would have been obvious to optimize the temperature of the applying step through no more than routine experimentation.

12. Claims 28-30 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa et al (US 2001/0031364) taken in view of Lyons et al (6045864).

'364 is applied here for the reasons given above. '364 does not teach applying the first compound with vapor phase deposition or that the compound may have an inert substituent. '864 teaches applying silanes such as methyl trimethoxysilane in vapor phase (7:48-8:4). It would have been obvious to one of ordinary skill in the art to have substituted the vapor phase

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deposition of '864 for the solution deposition of '364 because '864 teaches that vapor phase deposition of silanes is conventional.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Erma Cameron/ whose telephone number is 571-272-1416. The examiner can normally be reached on 8:30-6:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Erma Cameron/
Primary Examiner
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November 7, 2007